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Rollinger

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(54) **FIBER OPTIC VIBRATION DETECTION**(71) Applicant: **Raytheon Company**, Waltham, MA (US)(72) Inventor: **Andrew R. Rollinger**, Topanga, CA (US)(73) Assignee: **Raytheon Company**, Waltham, MA (US)

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(58) **Field of Classification Search**

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See application file for complete search history.

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(57) **ABSTRACT**

An apparatus to detect vibration is provided. The apparatus comprises an optical transmitter and an optical receiver. The optical transmitter is configured to send an optical signal that is modified by a vibration sensor. The optical receiver is configured to receive the optical signal from the vibration sensor, the optical signal comprising fluctuations responsive to vibration of the vibration sensor. The optical signal includes a radio frequency (RF) signal. The vibration sensor is comprised by an optical assembly configured to detect underground vibrations.

22 Claims, 4 Drawing Sheets

